



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUL 03 2014

CERTIFIED MAIL 7010 1060 0002 1705 4556
RETURN RECEIPT REQUESTED

Mr. Todd Gale
Water and Sewer Superintendent
Columbus Light and Water
P.O. Box 949
Columbus, Mississippi 39703

Re: Notice of Violation
National Pollutant Discharge Elimination System Permit No.: MS0056472
Ridgley Wastewater Treatment Plant

Dear Mr. Gale:

On September 27, 2013, the U.S. Environmental Protection Agency Region 4 sent an Information Request Letter (Request) pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. § 1318, to the City of Columbus, Mississippi requesting information related to Sanitary Sewer Overflows (SSOs) from the Wastewater Collection and Transmission System (WCTS) associated with the Ridgley Wastewater Treatment Plant, owned and operated by Columbus Light and Water (CL&W). On November 19, 2013, CL&W responded to the Request as CL&W also owns the WCTS. On April 8, 2014, the EPA and the Mississippi Department of Environmental Quality conducted a Compliance Evaluation Inspection (CEI) of the WCTS. The inspection results are summarized in the enclosed CEI report.

The EPA's review of CL&W's response to the Request and the information gathered pursuant to the aforementioned CEI has revealed that CL&W has violated the CWA and requirements of CL&W's National Pollutant Discharge Elimination System (NPDES) Permit. Specifically, the EPA has determined that CL&W has violated the CWA and the NPDES Permit as follows:

During the period of March 2008 to September 2013, CL&W had 11 SSOs totaling 8,744,000 gallons of untreated sewage that discharged from the WCTS to navigable waters of the United States as defined by Section 502 of the CWA, 33 U.S.C. § 1362. Such SSOs were not authorized by the NPDES Permit and are therefore violations of Section 301(a) of the CWA, 33 U.S.C. § 1311(a). In addition, CL&W had six SSOs totaling 491,000 gallons of untreated sewage that was released from the WCTS and did not reach navigable waters of the United States. All 17 SSOs are indicative of CL&W's violation of Permit Condition T-28 of CL&W's NPDES Permit, which requires CL&W to properly operate and maintain its WCTS and Permit Condition T-29 of CL&W's NPDES Permit, which requires CL&W to minimize or prevent discharges from the system.

The EPA has decided not to initiate an enforcement action at this time. However, CL&W's future progress in developing and implementing written Management, Operations and Maintenance (MOM) programs, continued rehabilitation of the WCTS and progress towards eliminating SSOs will determine if future EPA enforcement actions are warranted. The EPA will monitor CL&W's progress in developing and implementing MOM programs and WCTS rehabilitation over the next two years.

Until compliance with the CWA is achieved, CL&W is considered to be in violation of the CWA and subject to enforcement action pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. This Section provides for the issuance of administrative penalty and/or compliance orders and the initiation of civil and/or criminal actions.

Please contact Ms. Sara Schiff of my staff at (404) 562-9870 or by email at schiff.sara@epa.gov, if you have any questions regarding this NOV. You may also address written correspondence to Ms. Schiff at the above address on the letterhead.

Sincerely,



James D. Giattina
Director
Water Protection Division

Enclosure

cc: Mr. Chris Sanders
Mississippi Department of Environmental Quality

Ms. Megan Rupp
Mississippi Department of Environmental Quality

The Honorable Robert Smith, Sr.
Mayor, City of Columbus

Mr. David Armstrong
City of Columbus

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4

**Water Protection Division
Clean Water Enforcement Branch**



COMPLIANCE EVALUATION INSPECTION REPORT

**Public Works Department
Columbus Light and Water
Lowndes County
Mississippi
NPDES Permit No. MS0056472**

**Facility Address:
168 Yorkville Road West
Columbus, Mississippi 39702**

**Inspection Date:
April 8, 2014**

Inspectors:
Sara Schiff, Enforcement Officer, EPA Region 4
Dennis Sayre, Enforcement Officer, EPA Region 4
Tara Houda, Environmental Scientist, EPA Region 4
Megan Rupp, MDEQ-Jackson

**Inspection Report Prepared by:
Sara Schiff**

May 22, 2014

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ABBREVIATIONS AND ACRONYMS

CAP	Capacity Assurance Program
CEI	Compliance Evaluation Inspection
CL&W	Columbus Light and Water
CMOM	Capacity, Management, Operation, and Maintenance
CSSAP	Continuous Sewer System Assessment Program
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
FOG	Fats, Oils, and Grease
GIS	Geographic Information System
I/I	Infiltration/Inflow
ICIS	Integrated Compliance Information System
IRP	Infrastructure Rehabilitation Program
MDEQ	Mississippi Department of Environmental Quality
MGD	Million Gallons per Day
NPDES	National Pollutant Discharge Elimination System
SCADA	Supervisory Control and Data Acquisition
SORP	Sewer Overflow Response Plan
SSO	Sanitary Sewer Overflow
SUO	Sewer Use Ordinance
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

I. OVERVIEW

The Columbus Light and Water's (CL&W) Water Division provides drinking water and sanitary sewer services for residential, commercial and industrial entities within the City of Columbus, Mississippi. CL&W's Water Division is also responsible for the operation and maintenance of one wastewater treatment plant (WWTP), approximately 172 miles of sewer gravity line, 23 miles of force main, 27 miles of low pressure system force main, 58 pump stations and other sewer related appurtenances serving approximately 23,600 residents. CL&W also treats wastewater from the Columbus Air Force Base, which includes approximately 1,400 residents.

On September 27, 2013, the EPA sent a Information Request Letter (308 Letter) pursuant to Section 308 of the Clean Water Act (CWA), requesting information related to Sanitary Sewer Overflows (SSOs) from the Wastewater Collection and Transmission System (WCTS). The EPA received CL&W's response, dated November 15, 2013, to EPA's 308 Letter on November 19, 2013.

The EPA conducted a Compliance Evaluation Inspection (CEI) of CL&W's sewer system on April 8, 2014. The purpose of this CEI was to evaluate compliance with the CWA as it relates to SSOs from the sewer system and to assess CL&W's Capacity, Management, Operations and Maintenance (CMOM) programs. Additionally, the purpose of this compliance inspection was to examine the causes and potential corrective actions for SSOs from the WCTS.

During the inspection, the EPA requested written documentation of any CMOM programs that CL&W may use to operate and maintain the WCTS. The EPA also discussed inspection and maintenance records, interviewed management personnel and visited various sites in the WCTS including Moore's Creek Pump Station, Brandon Pump Station, and a manhole on Highway 45 North. This report describes EPA's findings, provides an initial analysis of SSOs from the sewer system, and presents preliminary recommendations.

II. OBJECTIVES

The specific objectives of the inspection were to assess CL&W's compliance with the CWA, evaluate reported SSOs, assess the CMOM programs, where implemented, and to examine the causes of SSOs in CL&W's sewer system.

III. INVESTIGATION METHODS

The investigation included:

- Review of the Integrated Compliance Information System - National Pollutant Discharge Elimination System (ICIS-NPDES) federal database, state documents and the NPDES Permit;
- Review of CL&W's response to the EPA's 308 Letter;
- Review of CL&W's NPDES permit and related documents;

- Interviews with CL&W's Water Division personnel; and,
- Visual inspection.

IV. REGULATORY SUMMARY

The Mississippi Department of Environmental Quality (MDEQ) is authorized under the CWA to implement the NPDES program in Mississippi. The Reynolds R. Ridgley WWTP is authorized under MDEQ's NPDES Permit No. MS0056472 (the Permit) to discharge from its WWTP into the Luxapalila Creek. The WWTP's design capacity is 10 million gallons per day (MGD), and it has an average daily flow of 5.63 MGD. The WWTP also uses equalization basins for additional wet weather capacity.

The Luxapalila Creek is a major tributary of the Tombigbee River in the Tombigbee River Basin, and it is not listed on the 303(d) list.

SSOs are prohibited discharges based on Sections 301 and 402 of the CWA which generally prohibit the discharge of pollutants by any person unless authorized by an NPDES permit. Permit Condition T-28 requires CL&W properly operate and maintain the WCTS which transports wastewater to the treatment plant, to achieve compliance with its permit. Permit Condition T-29 requires CL&W take all reasonable steps to minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment.

V. INSPECTION SUMMARY AND FINDINGS

The EPA performed a pre-inspection evaluation and an on-site inspection of the WCTS. The pre-inspection evaluation of CL&W's WCTS consisted of examining historic records submitted by CL&W to the EPA. This section will provide a summary of both means of inspection as well as any recommendations to CL&W to improve the WCTS performance.

A. Analysis of SSOs

Discharges to waters of the United States from sanitary sewer systems are prohibited unless authorized by an NPDES permit. In addition, overflows from the sewer system that do not reach waters of the United States can be indicative of a failure to comply with the proper operation and maintenance provisions of Permit Conditions T-28 and T-29.

CL&W submitted to the EPA information related to SSOs that occurred from March 2008 through September 2013 in its 308 Letter response. The EPA analyzed the information and compiled results based on total number of overflows. The EPA also categorized the SSOs by cause, which included six categories: Blockage, Grease, Manhole Failure, Pipe Failure, Pump Station Failure, and Rain/Rainwater Surcharge. Table 1 and Figure 1 summarizes the information collected from CL&W's 308 Letter response.

SSOs by Cause	Number
Blockage	1
Grease	2
Manhole Failure	1
Pipe Failure	8
Pump Station Failure	4
Rain/Rainwater Surcharge	1
TOTAL	17

Table 1: SSOs by cause.

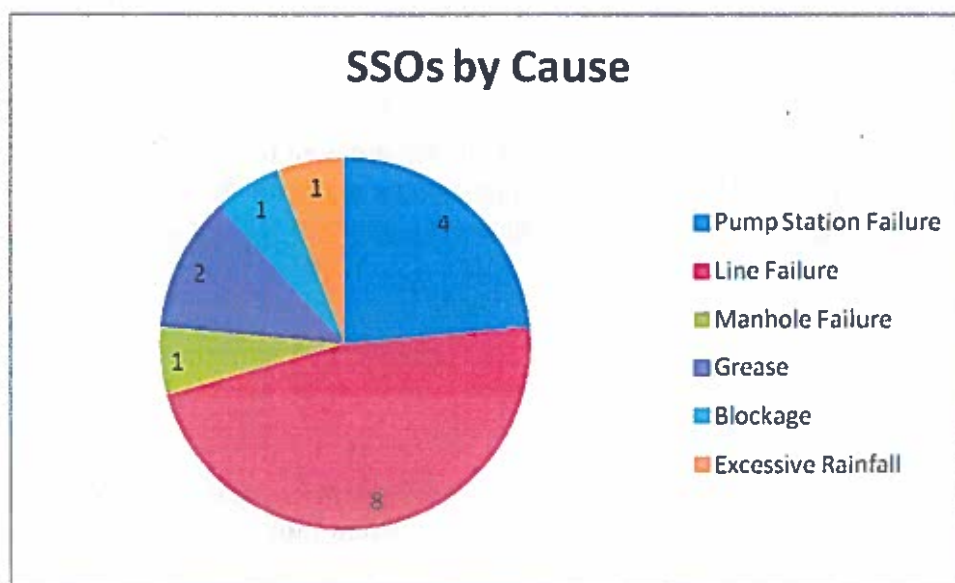


Figure 1: SSOs by cause.

The majority of CL&W's SSOs were caused by line failures. Based on CL&W's 308 Letter response, the EPA determined that CL&W had 17 reported total SSOs from March 2008 to September 2013.

CL&W did not report any building back-ups to the EPA.

Figure 2 is a map displaying the approximate location of the SSOs that CL&W reported to the EPA pursuant to the 308 Letter. An analysis of this map and SSO list indicates that there is only one potential problem area with regards to SSOs—the Hospital Drive pump station and manhole. However, there has not been a reported SSO at this location since May 2010.



Figure 2: SSO map.

CL&W reported volumes for all 17 reported SSOs. The average SSO volume is 543,235 gallons per SSO. This average volume amount is higher than expected because of a 7,500,000 gallon SSO in May 2011. This SSO originated from a broken line and was treated effluent from the WWTP that was being used as cooling water for a local power plant.

Findings and Recommendations:

The EPA's initial data analysis indicated that CL&W was experiencing an average of 1.4 SSOs per 100 miles of sewer pipe per year, which is much lower than the typical SSO count found in other comparable utilities within Region 4.

B. Management Interview

The EPA met with the Columbus Light and Water General Manager, the Water Superintendent, the Water Distribution Supervisor, the Lead Foreman for pump stations, the Consulting Engineer, and a MDEQ staff member at 8:30 a.m., April 8, 2014, at the Columbus Light and Water's office. Topics of discussion during the meeting included an SSO review, the use and documentation of any CMOM programs, including Mapping, Sewer Overflow Response Plan (SORP), Preventive Maintenance Programs, Operations Programs, Continuous Sewer System Assessment Program (CSSAP), Capacity Assurance Program, and Fats, Oil, and Grease (FOG) Control. The EPA also discussed citizen complaints and record keeping.

The EPA discussed concerns relating to SSOs in detail with the General Manager and other staff members and inquired about each program listed above to determine whether a formal or non-formal (not in writing) program existed to manage various maintenance and operations needs of the WCTS. CL&W also discussed the draft Capacity, Management, Operations, and Maintenance Plan (the CMOM Plan) that will be presented to the Columbus Light and Water Board for its approval by September 2014, along with CL&W's next five-year workplan. The CMOM Plan includes various management, operations, and maintenance programs for the WCTS.

CL&W has approximately 75 percent of the assets in its WCTS mapped in a geographic information system (GIS)-based map. CL&W has already finished mapping the water distribution system and plans on finishing mapping the WCTS by the end of 2014. CL&W currently has at least one crew gathering data on the WCTS and one fulltime staff member responsible for maintaining and inputting data into the GIS map. There are no written protocols for maintaining the GIS map or to ensure new additions to the WCTS are added to the GIS map, although CL&W was able to adequately discuss the procedures used.

CL&W has also developed a draft SORP, and it is included in the CMOM Plan. Although the SORP is currently a draft, CL&W is already using it to respond to SSOs. The SORP includes information on responding to and cleaning up an SSO, notification to MDEQ procedures, and volume estimation techniques. CL&W does not report building back-ups to MDEQ, nor does CL&W track building back-ups. CL&W has a three-man response crew that responds to SSOs during normal business hours. Four staff members are on-call to respond to SSOs after hours. CL&W has two vac-trucks, a portable lift station, and three portable generators that can be used to respond to SSOs.

During normal business hours, citizen complaint calls go to Columbus Light and Water's front office. Dispatch logs the call, creates a work order, and notifies the Sewer Department within the Water Division. The Sewer Department dispatches a three-man response crew. Outside of normal business hours, all complaints are received at the WWTP. The WWTP dispatches an on-call response crew, and the response crew creates a work order. CL&W has plans to integrate citizen complaints into the electronic mapping system.

Paper copies of work orders are scanned into CL&W's computer system. CL&W does not appear to have a system for tracking uncompleted work orders, but the Distribution and Collection Supervisor tracks completed work orders. Work orders contain information such as address, action taken, and required follow-up.

CL&W prioritizes WCTS corrective maintenance based on the impacts to human health and the environment. CL&W handles smaller issues, such as point repairs and line collapses, using internally produced work orders and CL&W work crews and equipment. For issues involving large capital expenditures and possible contractor assistance, CL&W adds the project to the five-year plan for scheduling and funding.

CL&W maintains cleaning and CCTV records on paper by street address. CL&W is planning

to add cleaning and CCTV records to the mapping system once the WCTS has been mapped. CL&W cleans and CCTV lines based on problem areas, and hot spot areas are cleaned as much as annually. Training records are maintained in the personnel files.

CL&W has 58 pump stations throughout the WCTS. Of the 58 pump stations, four have onsite emergency back-up power. CL&W also has three portable generators that are adequate to run CL&W's largest pump stations. The generators are maintained periodically and exercised regularly—the permanent generators at Congentrix, Airbase, and Ridge Road pump stations are exercised weekly, and all portable generators are exercised monthly. Each generator and pump station has a logbook and checklists that tracks maintenance activities. CL&W does not currently have formal pump station operations plans, but CL&W has a working knowledge of emergency operations and includes standard operating procedures in their job training. CL&W has also included pump station operations and maintenance programs in the CMOM Plan. The pump station wet wells are not timed for power outage overflow.

CL&W does not currently have any formal preventive maintenance programs; however, draft pump station and gravity sewer line preventive maintenance programs are included in the CMOM Plan.

CL&W does not currently have a formal CSSAP; however, CL&W is performing the work included in a typical CSSAP, such as regular line and manhole inspections, and a draft CSSAP is included in the CMOM Plan.

CL&W does not have a formal, separate root control program because roots have not been an issue for CL&W's WCTS. CL&W uses mechanical root removal for lines with root problems.

CL&W does not have a formal capacity assurance program. CL&W has a sewer Service Policy that addresses CL&W's day-to-day activities and operations, and the sewer Service Policy stipulates that new connections to the WCTS cannot be made if there is not enough sewer capacity.

CL&W has a FOG program. Grease traps are permitted through the City of Columbus' ordinances. The Health Department performs inspections, and the building inspectors handle enforcement as needed. The Sewer Department reports any FOG-related issues to the building inspectors. The Sewer Use Ordinance (SUO) provides adequate authority to implement the FOG program.

The City of Columbus' SUO provides the legal authority regarding sewer use, FOG, pretreatment, sump pumps/roof drains, and private haulers. The SUO also gives CL&W the authority to recover any costs regarding infrastructure damage, if warranted. CL&W also has the authority to disconnect any hazardous discharges to the WCTS. Private service laterals are not covered in the SUO, but they are covered in CL&W's sewer policy.

CL&W has four or five industrial users, and MDEQ is responsible for issuing the industrial users a pretreatment permit. MDEQ is also responsible for conducting inspections of the industrial users.

C. Site Inspection

The EPA performed an on-site inspection of Moore's Creek Pump Station, Brandon Pump Station, and manholes along Highway 45 North.

Figure 3 below shows the outside of the Moore's Creek Pump Station, and Figure 4 below shows the inside of the Moore's Creek Pump Station. This pump station has a portable generator and a supervisory control and data acquisition (SCADA) system. This pump station was also rehabilitated last year as reflected by the cleanliness of the pump station.

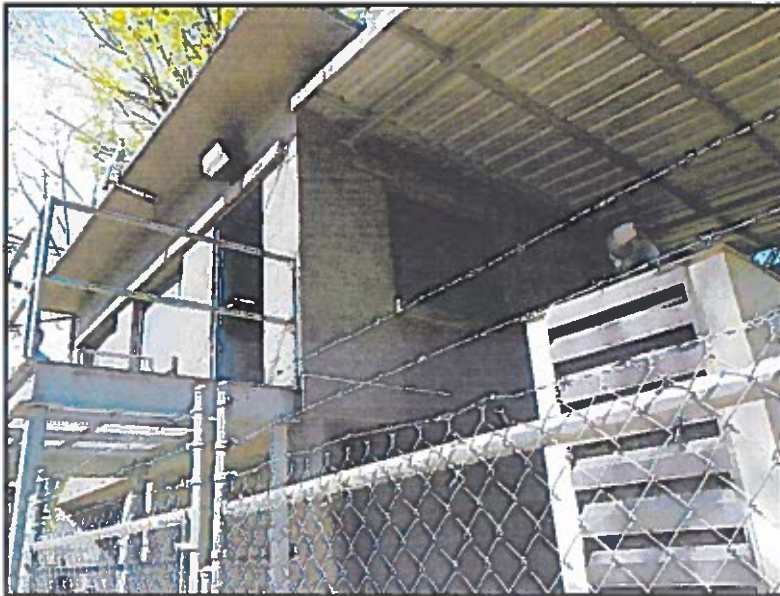


Figure 3: Outside of Moore's Creek Pump Station



Figure 4: Inside of Moore's Creek Pump Station.

Figures 5 through 8 below are of the Brandon Pump Station. The area outside of the pump station is well maintained, as shown in Figure 5. CL&W is currently working on rehabilitating the pump station, as shown in Figure 6. Note the cleanliness of the area housing the pumps in Figure 7. The wet well, shown in Figure 8, is also well maintained. There was very little floating debris and no build up along the walls and ladder rungs.



Figure 5: Outside of the Brandon Pump Station.

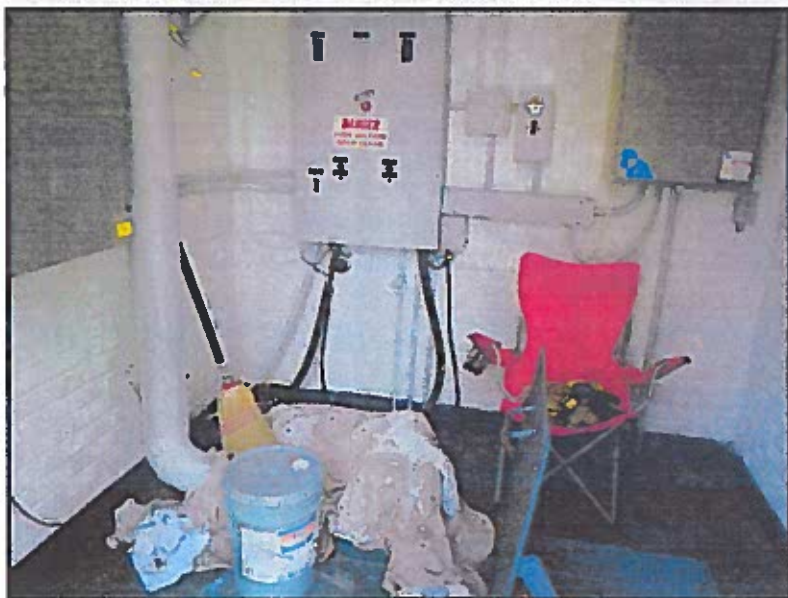


Figure 6: Inside of the Brandon Pump Station.

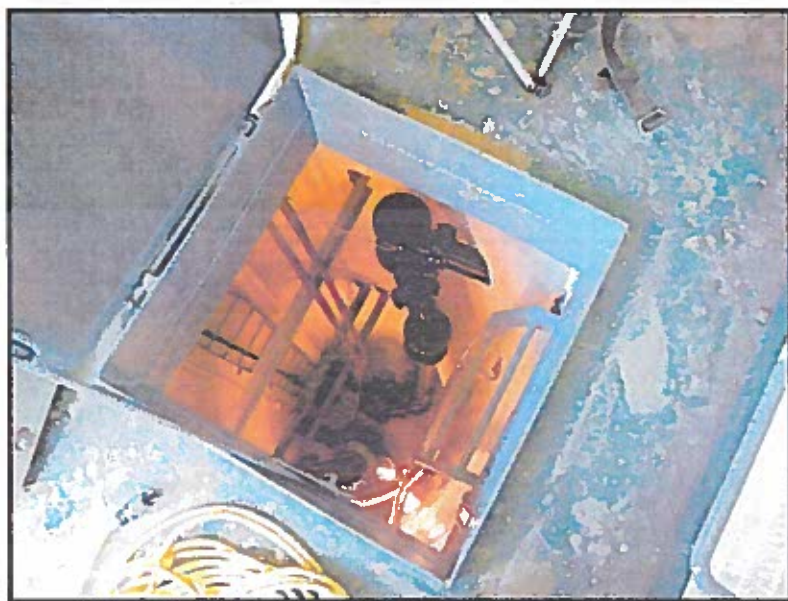


Figure 7: Pumps at the Brandon Pump Station.



Figure 8: Wet well at the Brandon Pump Station.

Figures 9 and 10 are of a manhole located along Highway 45 North. The manhole cover is bolted on and has a vent. This manhole is fairly new. A small amount of debris was noted on the top ladder rungs (Figure 10) of this manhole which indicates that the WTCS has surcharged recently at this manhole; however, no signs of discharge were noted outside the manhole.



Figure 9: Manhole along Highway 45 North.



Figure 10: View inside manhole shown in Figure 9.

D. Conclusion

CL&W's personnel appear to be actively maintaining the system; however, there are some deficiencies noted above. CL&W does not currently have many formal CMOM programs, but they are currently performing much of the work included in formally written CMOM programs and there are many programs included in the CMOM Plan that CL&W intends to adopt.

The EPA recommends that CL&W adopt an electronic program to track and maintain records of citizen complaints and work orders. The EPA also recommends that CL&W track building backups.

Management, Operations, and Maintenance Programs

The EPA noted several preventive maintenance procedures that CL&W is utilizing that are in keeping with best management practices to operate and maintain the system; however, the EPA recommends that CL&W develop formal written programs for these preventive maintenance procedures and programs. Developing formal written programs will aid CL&W in refining these programs, which should increase efficiency of the programs and provide guidance for the implementation of these programs that can be passed down to the next maintenance generation.

CMOM Program development guidance documents can be found on EPA, Region 4's website at <http://www.epa.gov/region4/water/wpeb/momproject/>. Recommended CMOM programs include:

a. Mapping Program

Formal Mapping Program documentation should be developed to ensure consistency of map protocol and to provide official guidance for map review and maintenance.

b. Capacity Assurance Program

The EPA recommends that CL&W develop a formal Capacity Assurance Program (CAP) that includes specific criteria for approval of additions to the system, balancing Permit requirements and CL&W's codes and ordinances. The CAP should include, at a minimum, performance measures used to approve or deny an extension of the collection system and procedures used to calculate capacity in the collection system and at the treatment plant.

c. Building Back-ups

The EPA recommends that CL&W track building back-ups because building back-ups can be indicative of maintenance issues and system surcharging.

